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REPORT  
OF THE  
GEOLOGICAL SURVEY AND CONDITION  
OF THE  
**BROWN & EDWARDS PROPERTY,**  
IN THE  
COUNTY OF RANDOLPH, NORTH CAROLINA,

BY  
**PROF. MONTROVILLE WILSON DICKESON, M. D.,**  
OF PHILADELPHIA,

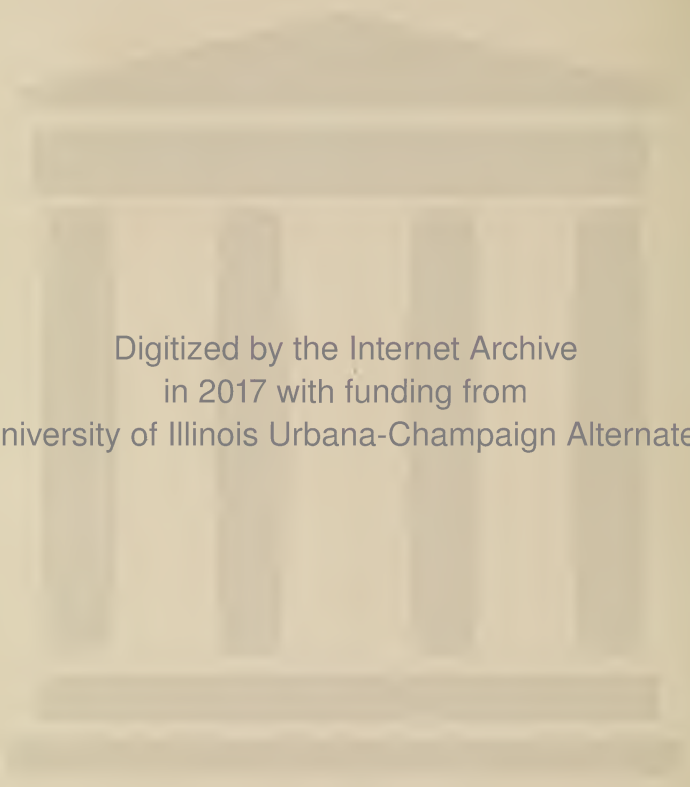
Member of the American Association for the Promotion of Science; the Academy  
of Natural Sciences of Philadelphia; the Society for Developing  
the Mineral Resources of the United States, &c., &c.

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PHILADELPHIA:

J. B. CHANDLER, PRINTER, 306 & 308 CHESTNUT STREET.

1860.



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## BROWN AND EDWARDS

GOLD AND COPPER PROPERTY,

RANDOLPH COUNTY, NORTH CAROLINA.

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The property, the subject of this report, consists of four several, but contiguous bodies of land—herewith separately described—situated in the County of Randolph, State of North Carolina, viz: the “Edwards,” two hundred acres; the “Lambert,” one hundred; the “Mendenhall,” one hundred, and the “Brown,” thirty-six, making in all four hundred and thirty-six acres of mineral land.

The facilities for the transportation of its products are excellent, as the North Carolina Central Railroad—connecting with the chain of railroads to Baltimore—presents two points, “High Point” and the “Thomasville Station,” the former four and the latter but three miles from it.

“EDWARDS.”

This property is situated on the waters of Hunt's Fork, and contains two hundred acres of land, which possess also great agricultural value.

It is bounded on the north by lands of Isaac B. Newton, south by those of James Collet, east by the “Mendenhall” property, a part of the “Brown and Edwards,” and on the west by lands of John Branner.

I am satisfied the lead on this property is identical with the “Twin.” It can be traced on its northward course, through the lands of Henry Johnson, Squire Mendenhall, and so on into Guilford County; through the Guilford Mining Company's land—formerly known as the Lindsay—distant about eight miles; but it is very distinctly traceable three miles from the outcrop. On its southern course, it passes through the lands belonging to the Albertson, Mount-Pleasant, Davidson, Heplar, Hindall, Myers, Thomas Lambert and Hendrick Hill Mines, a distance of thirteen miles.

Two shafts are sunk upon the property; one of which is a mere prospective shaft, and the other is thirty-one feet in depth, sunk on the slope of the vein, not timbered, dip  $30^{\circ}$ . The vein is composed of a spongy quartz, one foot in width at the outcrop, and upward of two feet at the extreme depth of the shaft. The underlie is composed of a hydrated oxide of iron, profusely impregnated with gold. The water-level, where the copper ore will intrude, will be reached here at a depth of about forty feet. Large quantities of gold have been taken from this shaft, the average being fully one dollar per bushel.

There are three distinct veins on this property. One, that makes its appearance in a small prospective shaft, sunk below the surface for a short distance only, is upward of five feet in width. This very limited development, however, prevented me from giving it more than a superficial examination. All three veins have been rich in gold, a very natural index, in this formation, to copper at the proper depth.

The improvements upon this property consist of two dwelling houses, a barn, carriage house, stable, cribs, &c., also a Drag Mill, with a very superior bed-stone, nine feet in diameter and sixteen inches in thickness; good tubbing, rockers, troughs, &c.

#### “LAMBERT.”

This property is a part of the whole, and adjoining it, and contains one hundred acres of rolling land, very heavily timbered, and valuable for agricultural purposes. It has been partially developed by a small shaft giving fair indications of gold, which at water-level must run into copper. The vein that is exposed runs for more than half a mile through this property, and is identical with the “Twin.” It may be considered an unexplored portion of the whole property, but adding, at the same time, to the extent of the lead as exposed on the “Edwards.”

#### “MENDENHALL.”

This property adjoins the “Edwards” on the east, and the “Brown” on the south, and contains one hun-



dred acres of land, forty of which is well timbered. The improvements on the same consist of a good house, barn, stables, &c., &c. This portion of the whole property is admirably drained of all surplus water by ravines, and hence is well adapted for mining.

Two shafts are sunk here to the depth of twenty-five feet, and both striking a vein. The largest of these is about one foot in width, and it is confirmed at the full depth of the shaft as a true vein. Both of these veins were traced over a fourth of a mile on the property, and the largest outcrop measured eighteen inches in width. There are three distinct veins on this property, but little, however, has been accomplished toward their development.

### “BROWN.”

This property is situated on the waters of the Uwharie, and contains thirty-six acres, chiefly wood-land. It is bounded on the north by land of William Mendenhall,—a part of the whole property, and the subject of this report,—west by those of James Collet, north by lands of William Ruddick, and east by those of John Frazier.

I found three distinct veins passing through this property. The most prominent of these, from the extent of its development, I have designated as the Iron vein. It was worked by a Mr. Mendenhall, who obtained several very rich pockets of gold, which have been variously estimated in product at from five to ten thousand dollars. The walls soft but regular, composed of a mixture of dialage and slate. The ore is rich, and is known



as the "coffee grounds." The pitch of the vein west  $45^{\circ}$ .

The original shaft upon this property was sunk by Elias Albertson, to the depth of twenty-two feet, in which the vein was struck at a depth of sixteen feet. It was eight inches in width, composed entirely of iron and copper pyrites, the whole vein carrying gold and enlarging as it descended. This shaft is in a condition of dilapidation.

Another shaft is sunk about thirty-five feet in depth, and it is well timbered. From this a tunnel has been driven for about the same distance, to connect with the above described shaft, from which good gold has been taken. By drifting from the tunnel, the vein was reached, which gave good copper ore, varying from five to thirteen inches in width, the analysis of which showed twenty-two per cent of pure copper.

The copper ore is thoroughly incorporated with iron pyrites, and shows but little quartz in the upper workings; at a depth of about twenty feet in the shaft, the vein being quite irregular, and the ore appearing in the form of pockets. Beyond this point, however, the vein has been cross-cut, and found to be regular, and can be traced by the outcrop on its northern course.

On the property there is quite a number of veins running irregularly, which probably will unite below, and form an important vein, as the copper ore is of superior quality.

## LOCAL GEOLOGY.

The rocks in this immediate vicinity are of the ordinary granite of the country, which incloses the vein fissures. The vein rarely exceeds three feet in width at the outcrop, which is generally found from seven to ten inches in thickness, and gradually increasing in volume in its descent.

I do not recognize an unusually large outcrop as a conclusive indication of value, as the most productive mines in this State have been commenced on quite small outcrops.

As is common to the formation here, the vein-stone is quartz, bordered on either side by slate, which fills, in part, the vein fissures. In this state, all the mineral contents of the veins are frequently found in the slate, and occasionally the brown oxide of iron is disseminated through it, as well as the quartz.

The most valuable ore of this locality, at present, is a brown gold ore, lying in immediate proximity to the vein, the consequence of the decomposition of the pyrites, and subsequently becoming agglutinated with the contiguous formation. The most valuable portion of it is the hydrated oxide of iron, which, to distinguish it from the micaceous oxide—much inferior in quality and production—requires great care.

The micaceous oxides are the most abundant, and in a measure worthless. Those, practical in the specific character, selection or separation of gold ores, are conversant of this fact, and therefore condemn them at first sight, while, at the same time, their reasons for it are

expressed by the terms “fat and lean, lively and dead, healthy and unhealthy,” &c., &c.

The direction of the veins in this vicinity is north-east and south-west. They are generally composed of quartz and iron pyrites in the upper workings, but in the depth the iron disappears, and the copper intrudes, or takes its place.

The brown ores, whose gangue is composed of either iron pyrites, oxide of iron or quartz and copper pyrites, uniformly run, as they approach water-level, into a combination—by the bye, not chemical—of iron and copper pyrites. Hence such formation can be relied upon for copper ore.

The gold-bearing rock on the “Edwards,” appears to have belonged to two geological periods: that of the earliest, embracing rocks of gneiss, talcose, slates, &c., or pyrocristoline rocks; the latter, the palaeozoic, as well as beds. Hence the division of distinct periods to which the cupriferous veins must be assigned, being those of organized matter, and the period succeeding it.

## RESUMÉ.

This property, composed of the previously described properties, viz.: the “Edwards,” “Lambert,” “Mendenhall,” and “Brown,” under the title at the head of this report, of Brown and Edwards, contains four hundred and thirty-six acres of mineral land.

Situated at the moderate distance of from three to four miles from the North Carolina Railroad—em-

bracing two stations—the means of transportation of its products to a market, are all that is required.

The property being composed of rolling land, well timbered, and nature having thus arranged in its formation, for its drainage, it possesses all the external requisites for easy and successful mining.

Much work has been executed, as will be seen in the descriptions of the different properties of which it is composed, and numerous veins have been developed and established for gold, that having been the leading purpose, heretofore, of exploration and development upon it.

The indications and evidences of copper ore are good, and hence, below water-level there is every probability that this property will be found to be rich in cupriforous matter.

The territorial limits of this property are large, and it is so compact in form as to give the veins an extended and continuous run for, comparatively, an indefinite period of time.

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